Town of Bedford

2008 Winter Energy Savings Toolkit

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Dear Resident,

It's hard to believe that fall has arrived and that the winter season will soon be upon us. With high costs projected for heating fuels this winter, we are all seeking ways to reduce energy use and save resources. Fortunately, there are many tools available to help us accomplish our goals, but often times the information on how to access and use them is scattered and confusing. In an effort to sort this situation out, the Town of Bedford and The Town of Bedford's Energy Advisory Panel have assembled this Winter Energy Savings Toolkit.

This toolkit will advise residents of several strategies to save energy and money. The information is organized into five sections related to home energy savings. Each section speaks to various levels of initiative and household resources – from simple do-it-yourself fixes, to more sophisticated and impactful measures, including a guide to accessing special reduced rate financing and incentives. There is even a section on assistance programs and free cash for those who qualify!

Our goal is to create an easy path for all residents to begin reducing energy needs and saving money. We hope that you find this toolkit helpful and that you and your family enjoy a healthy and happy winter.

Sincerely,

Lee V.A. Roberts
Town Supervisor

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SIMPLE FIXES

Here are some simple improvements you can make **now** to save money in the coming heating season.

- **Stop all drafts and air seal any leaks.** Cold air infiltration usually causes the largest amount of residential heat loss. Air sealing doors, windows and leaks can reduce infiltration and improve comfort. Check out the EPA tear-out guide to self-sealing your home in the middle of this pamphlet or at the Bedford Town House Winter Energy Savings Kiosk.
- **Install programmable thermostats** to help manage your heating needs efficiently.
- **Program thermostats** to 68° when you are home and lower to 60° at night or when you are out.
- **Use insulating window treatments** (shades, blinds, window film) to keep the warm in and the cold out of your home at night. Open window shades with maximum solar gain during the day.
- **Keep heating equipment maintained and tuned**.
- **Replace furnace air filters as appropriate.**
- **Use timers for lights.** Instead of leaving lights on while away, put timers on a few of the lights in your home to match the comings and goings of your household.

- **Switch to compact fluorescent bulbs.** Replace four 75-watt incandescent bulbs with 23-watt fluorescent bulbs (CFLs). They will use about two-thirds less energy and last up to 10 times longer and save you $190 over the life of the bulbs.

- **Lower your hot water temperature.** Set your hot water temperature at the "normal" setting — no higher than 120 º F. This can cut your water heating costs by 10%.

- **Wrap your water tank** with an insulation kit if it is older than 5 years.

- **Wrap your hot water pipes** with pipe insulation.

Source: Bedford Summit on Energy Efficient Renovation and Construction, April 16, 2008

MORE SOPHISTICATED MEASURES

If you find that simple fixes are not enough, here is a list of more impactful measures that you might consider:

Get a Home Energy Audit.

This will help guide you to specific and appropriate recommendations on how to create an energy efficient home. **Please see page 5 for information** about having an energy audit performed on your home through New York State's Home Performance with ENERGY STAR Program or visit the Bedford Town House Winter Energy Savings Kiosk.

Undertake Energy Efficiency Improvements.

- **Replace old windows** with operable double–pane ENERGY STAR windows which have low–emissive argon filled double glazing
- **Insulate** walls, ceilings, attic, floors and basements
- Eliminate or at least **close the flue** in open fireplaces
- **Seal air ducts** (forced air systems)

Consider Upgrading or Replacing Heating Equipment.

- Minimum specification **ENERGY STAR equipment** and appliances (minimum 30% more efficient)
- **Sealed combustion** or condensing furnace/boiler, if practical
- **Efficient fans** for furnaces and air conditioning systems (ECM)
- Consider unit heaters/coolers (i.e. no ducts or pipes)
- **Tankless water heating**
- **Solar** Electric
- **Solar** Thermal
- Build and renovate to **LEED or ENERGY STAR–certified** standards when renovating or building your home.

DO–IT–YOURSELF ENERGY EFFICIENCY IMPROVEMENTS

If you are handy with home maintenance and repair, you can undertake many improvements yourself to cut down on your winter energy usage and save money. Simple steps to insulate and seal windows and doors, for example, can lead to substantial energy savings. Please see the enclosed tear–out pamphlet *Do–It–Yourself Guide to Sealing and Insulating with ENERGY STAR* for money-saving projects and ideas.

Some helpful links for do–it–yourself improvements include:

Alliance to Save Energy (ASE) Winter Tips: How is Your Home's 'Physical Fitness'?
http://www.ase.org/content/article/detail/924

Save Energy This Winter with ENERGY STAR
http://www.energystar.gov/index.cfm?c=heat_cool.pr_winter.

IF YOU NEED HELP: WORK WITH PROFESSIONALS -

Home Performance with ENERGY STAR Program

The New York State Energy Research and Development Authority (NYSERDA) manages a program to help homeowners reduce their energy costs called **Home Performance with ENERGY STAR.** Through the program, homeowners work with accredited independent contractors who are specially trained to perform energy audits and make needed energy efficient improvements.

Here are the key steps:

1. **Get a home energy audit with an accredited home performance contractor.** The cost for the energy audit should be between $500 to $800. NYSERDA has set up a list of qualified contractors for our area — please see pages 7 - 11 for a list of NYSERDA–Accredited Contractors in Westchester County. After they rate your home, they will make a list of suggested improvements in order of importance.

2. **Work with an accredited contractor to complete some or all of the recommended work.** You will find that your contractor is certified to complete both the home rating and the needed improvements although you may want to compare costs between other accredited contractors from the list. The accredited contractor you choose will help you decide the scope of the work, maximize the energy efficiency improvements and help to estimate energy savings and financing costs.

3. **Secure cut-rate financing or cash incentives for your project.** NYSERDA offers cut–rate

financing or cash incentives of up to $5,000 to help pay for your energy efficiency investments, but only if you work with their list of accredited contractors (please see pages 12-15 for a list of financing and cash incentive programs). Your accredited contractor will help you obtain the maximum NYSERDA benefit.

To obtain more detailed information on the Home Performance with ENERGY STAR Program, please go to **http://www.getenergysmart.org.** On the left side of this website, click on the "Single Family Homes (1-4 units)" link. Then click on "Existing Buildings" link. Then click on the "How to Participate" link.

Type in this link to get there directly: **http://getenergysmart.org/SingleFamilyHOmes/ExistingBuilding/HomeOwner/Participate.aspx#ClosingJoba**

OR you can call 1-877-NYSMART or 1(877) 697-6278.

The Town of Bedford Energy Savings Kiosk at the Town House will have brochures outlining this program.

Please check the Bedford Green Page Website in the fall for a video to help de-mystify the home energy audit process. Go to **http:www.bedfordny.info/** and click on the 'Welcome to our Green Page' on the right side of the page.

NYSERDA–Accredited Home Performance Contractors for WESTCHESTER COUNTY
(Covering NYC - North Region)

DJH Mechanical Services, Inc.
Sylvia Hazlehurst
155 Kingsbridge Road East
Mount Vernon, NY 10550
dhazlehurst@djhmechanical.com

www.djhmechanical.com
Phone: (914) 699-6767
Fax: (914) 699-6865

New York Energy Conservation Co. Inc.
Hugo Salinas
8 Valley Place
New Rochelle, NY 10801
sales@nyconservation.com

www.nyconservation.com
Phone: (914) 654-1937
Fax: (914) 654-0137

Clover Heating & Cooling
Anthony Marmo
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www.clovercomfort.com
Phone: (914) 631-6744
Fax: (914) 631-3619

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John Urbanowicz
2088 Central Park Avenue
Yonkers, NY 10710
john@greentreeenergy.com

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Phone: (914) 361-1000
Fax: (914) 361-1003

ABCO Builders & Energy Management, Inc.
Dominic Riemma
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Douglaston, NY 11363
Driemma@nyc.rr.com

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Fax: (715) 225-8749

Energy Appreciators
Jack Christmann
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NYSERDA–Accredited Contractors in Westchester

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New Rochelle, NY 10804
rfeuer@smartenergynow.com
www.smartenergynow.com
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Jerritt Gluck
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Oyster Bay, NY 11771
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Keith Monthie
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accuaire@hvc.rr.com
www.accuaireheatingandcooling.com
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Advanced Home Performance Solutions, LLC Phone: (914) 969-6700
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Samuelson Contracting
Ron Samuelson
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Fax: (914) 271-8644

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Astoria, NY 11102
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Fax: (718) 726-3937

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NYSERDA–Accredited Contractors in Westchester

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Peter Koszewicz
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HOTHAN, Inc.
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Double RA Construction Corp.
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Fax: (914) 939-5991

Green Star Insulation
Chris Puleo
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chrispuleo@green-star-insulation.com

www.green-star-insulation.com
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Phoenix Mechanical
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Rye Brook, NY 10573
lnissman@aol.com

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www.airsealis.com
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Fax: (718) 821-6801

EB Design Air, Inc.
Eric Buchalter
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eric@designairinc.com

www.designairinc.com
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Fax: (845) 357-3892

THE TOWN OF BEDFORD DOES NOT ENDORSE ANY CONTRACTOR.

The list above is summarized from this website: **http://www.getenergysmart.org/Resources/FindPartner.aspx**

New York State information link is: **http://www.getenergysmart.org/SingleFamilyHomes/ExistingBuilding/HomeOwner.aspx**

ENERGY EFFICIENCY LOW–COST LOANS AND CASH INCENTIVE PROGRAMS

Cut-Rate Financing Options

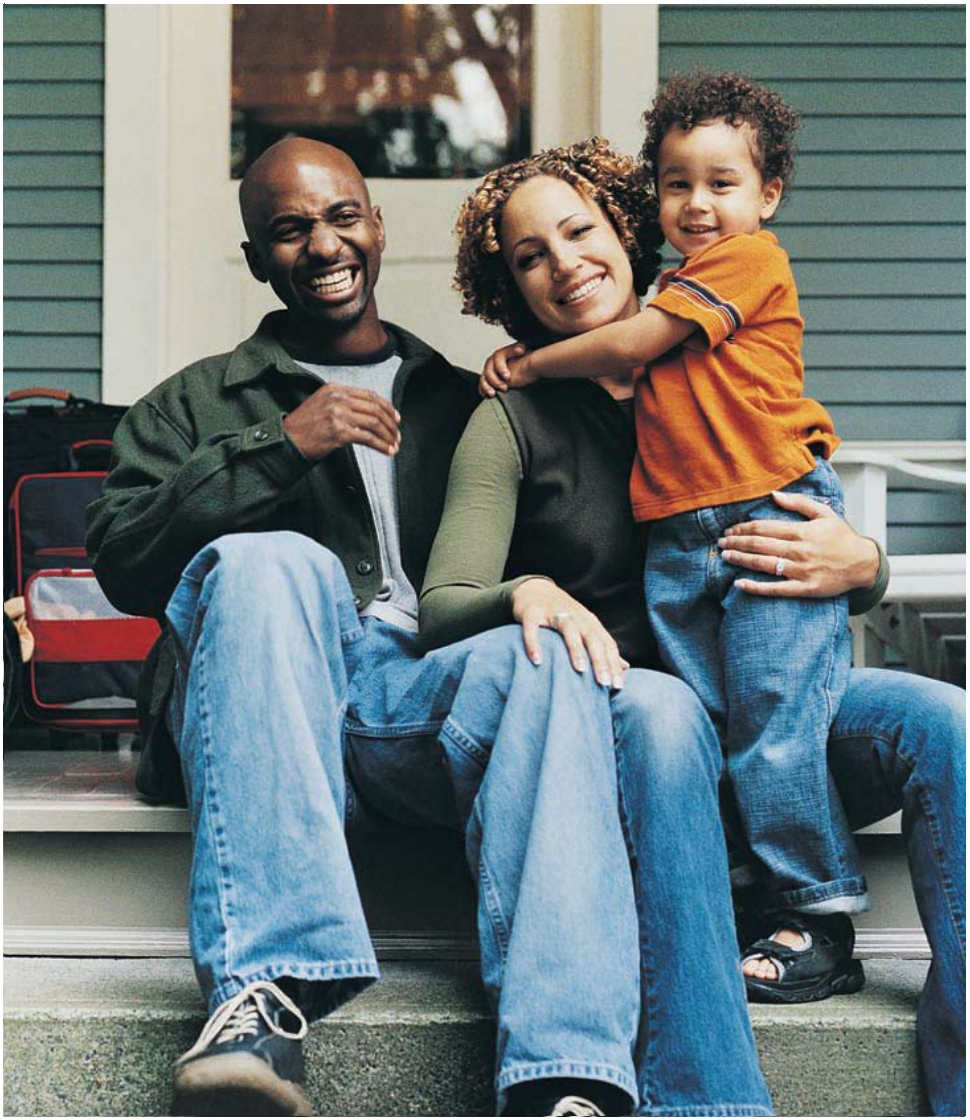
1. ENERGY STAR Financing

Low-interest ENERGY STAR Financing is offered through the Home Performance with ENERGY STAR program (see page 5 for more information).

The following conditions apply:

- You must use only the Home Performance Accredited Contractors approved by the Program to receive these special incentives through the Home Performance with ENERGY STAR Program (please see pages 7–11 for a list of local contractors).
- Financing is available to owner-occupied 1– or 2–family homes. This is an unsecured loan, not a second mortgage or equity loan. The limit on the loan is $15,000 or $20,000, depending on your credit score. You can select a term of 3, 5, 7 or 10 years. Your contractor can supply you with the current interest rate.
- Payment is made directly to the contractor after a signed Certificate of Completion is received by the program on a work scope. The work scope must also have been reviewed and approved by the program implementer.

The Home Performance Accredited Contractor you choose will help you decide the scope of the work, maximize the energy efficiency improvements, help to estimate energy savings and guide you to receiving these incentives. For more information, please contact NYSERDA's toll free hotline: 1 (877) NY SMART or 1 (877) 697-6278.



A DO-IT-YOURSELF GUIDE TO SEALING AND INSULATING WITH ENERGY STAR®

SEALING AIR LEAKS AND ADDING ATTIC INSULATION

ENERGY STAR


Seal and
Insulate
with
ENERGY STAR
LEARN MORE AT
energystar.gov

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Adding Attic Insulation	4.1

Sealing and Insulating your home is one of the most cost-effective ways to make a home more comfortable and energy efficient—and you can do it yourself.

Use This Guide To:

1. Learn how to find and seal hidden attic and basement air leaks
2. Determine if your attic insulation is adequate, and learn how to add more
3. Make sure your improvements are done safely
4. Reduce energy bills and help protect the environment

When you see products or services with the ENERGY STAR® label, you know they meet strict energy efficiency guidelines set by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy (DOE). Since using less energy reduces greenhouse gas emissions and improves air quality, choosing ENERGY STAR is one way you can do your part to protect our planet for future generations.

For more information visit:
www.energystar.gov
or call **1.888.STAR.YES**
(1.888.782.7937).

The U.S. EPA wishes to thank The Family Handyman Magazine for their contribution of photographs and content for this guide. Photos appear courtesy of The Family Handyman Magazine ©2001 except where otherwise noted.

LOCATING AIR LEAKS

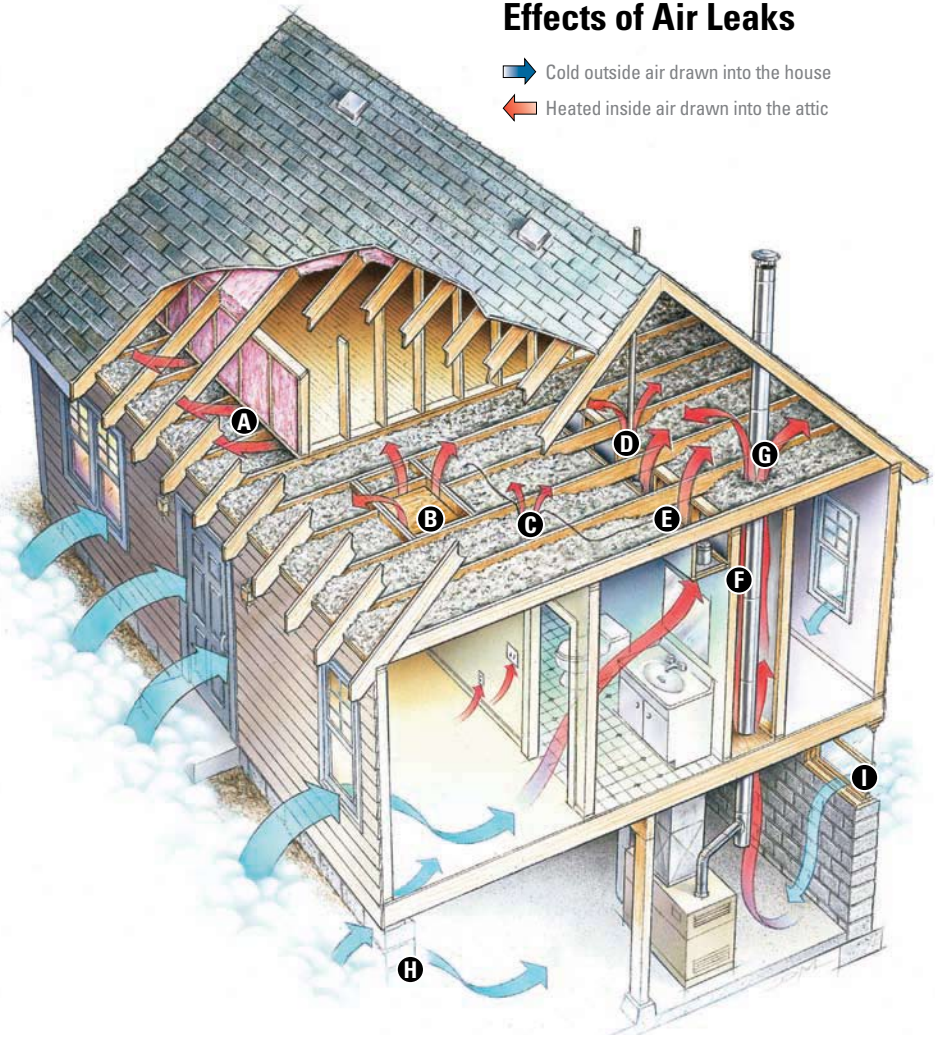
More than any other time of year, you notice your home's air leaks in the winter. Most people call these air leaks "drafts." You may feel these drafts around windows and doors and think these leaks are your major source of wasted energy. In most homes, however, the most significant air leaks are hidden in the attic and basement. These are the leaks that significantly raise your energy bill and make your house uncomfortable. In cold weather, warm air rises in your house, just like it does in a chimney. This air, which you have paid to heat, is just wasted as it rises up into your attic and sucks cold air in all around your home—around windows, doors, and through holes into the basement. The illustrations on Page 1.3 and 3.1 show warm air leaving (red arrows) the house through the attic and cold air being pulled into the house (blue arrows). Locating these leaks can be difficult because they are often hidden under your insulation. This guide will help you find these leaks and seal them with appropriate materials.

Even if you have enough insulation in your attic, sealing attic air leaks will enhance the performance of your insulation and make for a much more comfortable home.

If you are not familiar with some of the terms in this guide, check our glossary inside the back cover.

Common Household Air Leaks

- **A** Behind Kneewalls
- **B** Attic Hatch
- **C** Wiring Holes
- **D** Plumbing Vent
- **E** Open Soffit (the box that hides recessed lights)
- **F** Recessed Light
- **G** Furnace Flue or Duct Chaseways (the hollow box or wall feature that hides ducts)
- **H** Basement Rim Joists (where the foundation meets the wood framing)
- **I** Windows and Doors


Effects of Air Leaks
Cold outside air drawn into the house
Heated inside air drawn into the attic
A
B
C
D
E
F
G
H
I

GETTING STARTED

You May Need a Contractor to Correct These Problems:

- Wet or damp insulation indicating a leaky roof
- Moldy or rotted attic rafters or floor joists indicating moisture problems
- Kitchen, bathroom, and clothes dryer vents that exhaust moist air directly into the attic space instead of outdoors
- A history of ice dams in the winter (an indication of serious air leaks)
- Little or no attic ventilation (see Page 4.2 – A Note About Attic Ventilation)
- Knob and tube wiring (pre-1930), which can be a fire hazard when in contact with insulation
- If you have many unsealed and uninsulated recessed "can" lights, special care must be taken when insulating around these fixtures (See Page 2.2)

Attic air sealing and adding insulation are do-it-yourself projects if your attic is accessible and not too difficult to move around in. The projects recommended in this guide can usually be completed in a day or two and will provide benefits for years to come. However, if upon inspection of your attic you find any of the conditions listed to the left, we recommend you consider hiring a contractor to correct these problems before proceeding.

For tips on hiring the right contractor, visit **www.energystar.gov/homeimprovement**.

Get Your Bearings from Below

A good way to start home sealing is to make a quick sketch of your home's floor plan. This sketch will serve as a reference point once you get into the attic and will help you locate areas of leakage. In your sketch, make note of dropped soffits over kitchen cabinets or bath vanities, slanted ceilings over stairways, where walls (interior and exterior) meet the ceiling, and any other dropped-ceiling areas. These areas may have open stud cavities leading directly into the attic and can be huge sources of air leaks (see photos 1-3 on Pages 1.6 and 1.7).

Tips For Working in the Attic

- **Have a Plan in Place**
  The key to any successful home improvement project is adequate planning. Gather all your tools and supplies before you begin to minimize trips in and out of the attic. Be sure that the work area is well-lit by using a drop light, and keep a flashlight handy.

- **Prepare to Get Dirty**
  The entire process of sealing your attic will be made easier if you take the time and effort to wear the right gear. Wear knee pads to help prevent pain associated with crawling on attic joists. Additionally, a lightweight disposable coverall, gloves, and hat can keep itchy and irritating insulation off your skin.

- **Above All – Be Safe**
  Take precautions to avoid a dangerous working environment in the attic. During hot weather start working early, as attics heat up as the day moves on. Drink plenty of water and use an OSHA-approved particulate respirator or double-strap dust mask to prevent inhalation of hazardous substances. Also remember to watch your step. Walk on joists or truss chords, not exposed ceiling drywall or insulation. In addition, watch out for sharp nails sticking through the roof deck!

Materials Checklist for Sealing Attic Air Leaks

- Batt or roll of unfaced fiberglass insulation and large garbage bags (for stuffing open stud cavities behind kneewalls and in dropped soffits)
- Roll of reflective foil insulation or other blocking material such as drywall or pieces of rigid foam insulation to cover soffits, open walls, and larger holes
- Silicone or acrylic latex caulk & caulk gun for sealing small holes (1/4 inch or less)
- Several cans of expanding spray foam insulation for filling larger gaps (1/4 inch to 3 inches)
- Special high-temperature (heat-resistant) caulk to seal around flues and chimneys
- Roll of 14-inch wide aluminum flashing to keep insulation away from the flue pipe
- Retractable utility knife and sheet metal scissors
- Tape measure and staple gun (or hammer and nails) to hold covering materials in place
- Safety glasses, gloves, and dust mask (for insulation work as well)
- Flashlight or portable safety light
- Boards to walk on, if needed
- Large bucket to haul materials

SEALING ATTIC AIR LEAKS

Plug the Big Holes First

Don't worry about finding and sealing all the little holes in your attic; your biggest savings will come from plugging the large ones. Once in the attic, refer to your sketch to locate the areas where leakage is likely to be greatest: where walls (inner and outer) meet the attic floor, dropped soffits (dropped-ceiling areas), and behind or under attic kneewalls. Look for dirty insulation—this indicates that air is moving through it. Dropped soffits may be filled or covered with insulation and hard to see. Push back the insulation and scoop it out of the soffits. You will place this insulation back over the soffit once the stud cavities have been plugged and the soffits covered (photos 1-3) (If you have recessed "can" lights in your open soffits, please read about them on Page 2.2 before proceeding).

1. CREATE STUFFED BAGS

Cut a 16 inch long piece from a batt of unfaced fiberglass insulation and fold it into the bottom of a 13-gallon plastic garbage bag.

2. PLUG OPEN STUD CAVITIES

Fold the bag and stuff it into the open stud cavity. Add more insulation to the bag if it doesn't fit tightly. Plug all open stud spaces, then cover the soffit (photo 3, Page 1.7).

3. COVER DROPPED SOFFITS

After removing insulation from a dropped soffit, cut a length of reflective foil or other blocking material (rigid foam board works well) a few inches longer than the opening to be covered. Apply a bead of caulk or adhesive around the opening. Seal the foil to the frame with the caulk/adhesive and staple or nail it in place, if needed.

4. SEAL BEHIND KNEEWALLS

Cut a 24 inch long piece from a batt of fiberglass insulation and place it at the bottom of a 13-gallon plastic garbage bag. Fold the bag over and stuff it into the open joist spaces under the wall (a piece of rigid foam board sealed with spray foam also works well for covering open joist cavities). Again, cover with insulation when you're done.

If You Have a Finished Attic, Seal Behind the Kneewalls

Finished rooms built into attics often have open cavities in the floor framing under the side-walls or kneewalls. Even though insulation may be piled against or stuffed into these spaces, they can still leak air. Again, look for signs of dirty insulation to indicate air is moving through. You need to plug these cavities in order to stop air from traveling under the floor of the finished space (photo 4).

Caution: Some attics have vermiculite insulation, which may contain asbestos, a health hazard. Vermiculite is a lightweight, pea-size, flaky gray mineral. Don't disturb vermiculite insulation unless you've had it tested by an approved lab to be sure it doesn't contain asbestos. Contact your local health department for the name of an approved lab.

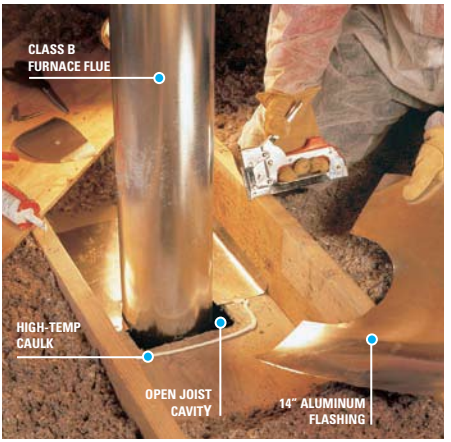
SEALING ATTIC AIR LEAKS

Furnace Flues Require Special Sealing Techniques

The opening around a furnace or water heater flue or chimney can be a major source of warm air moving in the attic. Because the pipe gets hot, building codes usually require 1 inch of clearance from metal flues (2 inches from masonry chimneys) to any combustible material, including insulation. Photos 5 and 6 show how to seal this gap with lightweight aluminum flashing and special high-temperature (heat-resistant) caulk. Before you push the insulation back into place, build a metal dam (photo 7) to keep it away from the pipe. Use the same technique for masonry chimneys.

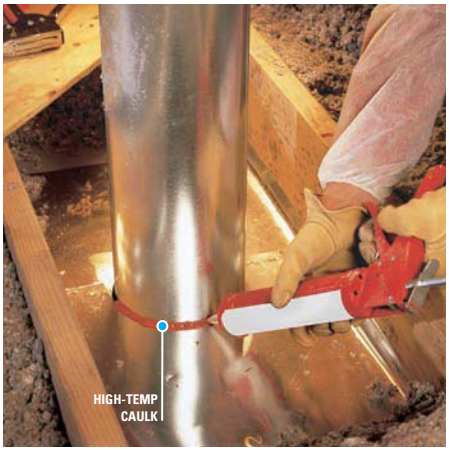
Caution: Furnace flues (the pipe that removes your furnace exhaust) can be very hot.

5. CUT ALUMINUM FLASHING



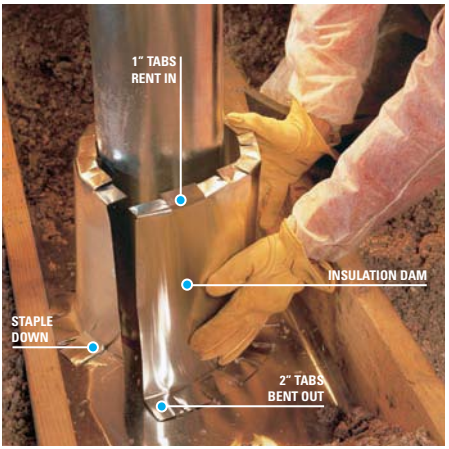
Cut aluminum flashing to fit around the flue. For round flues, cut half circles out of two pieces so they overlap about 3 inches in the middle. Press the flashing metal into a bead of high-temperature caulk and staple or nail it into place. If there's no wood, staple or nail it directly to the drywall, but be sure not to staple or nail through the drywall.

6. SEAL WITH SILICONE CAULK



Seal the gap between the flue and metal flashing with special high-temperature caulk. Don't use spray foam.

7. FORM AN INSULATION DAM



Form an insulation dam to prevent insulation from contacting the flue pipe. Cut enough aluminum from the coil to wrap around the flue plus 6 inches. Cut slots 1 inch deep and a few inches apart along the top and bend the tabs in. Cut slots about 2 inches deep along the bottom and bend out the tabs. Wrap the dam around the flue and secure the bottom by stapling through the tabs. Now put insulation back right up against the dam.

Identifying Attic Pipes

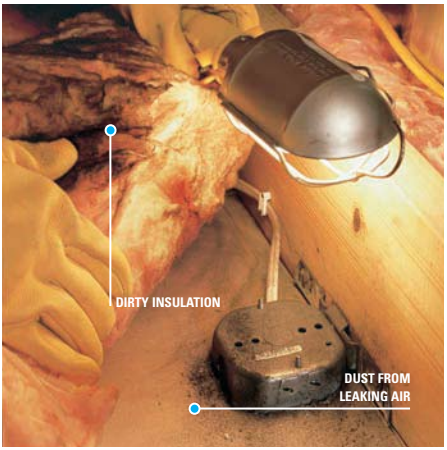
FLUES/VENTS/PIPES:	MADE OUT OF:	SEAL AROUND WITH:
Furnace/Water Heater	Galanized Metal	Aluminum flashing and high-temperature silicone caulk
Chimney	Masonry/Metal	Aluminum flashing and high-temperature silicone caulk
Plumbing	Cast Iron or PVC	Expanding foam or caulk, depending on size of gap

SEALING ATTIC AIR LEAKS

Foam or Caulk Small Gaps in Your Attic

Even though most of the gaps spilling warm air into your attic are buried under insulation, you might be able to find evidence of these gaps. Look for areas where the insulation is darkened (see photo 8). This is the result of filtering dusty air from the house. In cold weather, you may also see frosty areas in the insulation caused by warm, moist air condensing and then freezing as it hits the cold attic air. In warmer weather, you'll find water staining in these same areas. Although the insulation is dirty, it is still okay to use. There's no need to remove and replace. After sealing the areas, just push the insulation back into place. If you have blown insulation, a small rake can be helpful to level it back into place.

8. FIND ATTIC BYPASSES



Check for gaps in your attic that facilitate air movement by checking for dirty insulation. Seal the gaps with caulk or expanding foam. When complete and dry, push the insulation back into place.

Seal Small Gaps

Use expanding foam or caulk to seal the openings around plumbing vent pipes and electrical wires (see photos 9 and 10). Be sure to wear gloves and be careful not to get expanding foam on your clothes, as the foam is very sticky and nearly impossible to remove once it sets. When the foam or caulk is dry, cover the area again with insulation.

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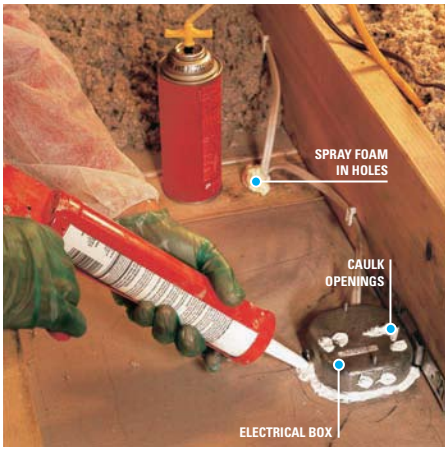
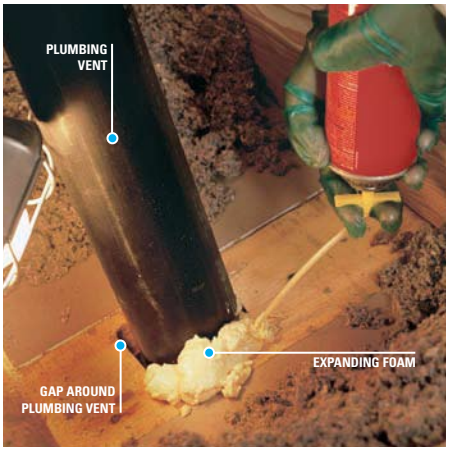
9. FILL HOLES WITH CAULK



Fill wiring and plumbing holes with expanding foam. Caulk around electrical junction boxes, and fill holes in box with caulk.

10. STUFF GAPS WITH INSULATION



If the space around your plumbing pipe is wider than 3 inches, you may need to stuff some fiberglass insulation into the space to serve as a backer for the expanding foam. Once the fiberglass insulation is in place, follow the directions on the can to foam the space around the pipe.

SEALING ATTIC AIR LEAKS

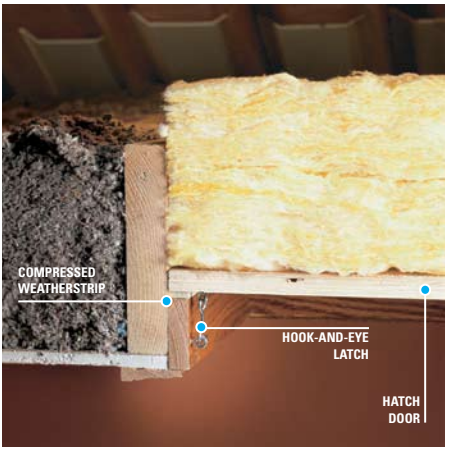
Complete the Job by Sealing the Attic Hatch or Door

Finish up by sealing the access hatch with self-sticking weather stripping (photos 11 and 12). If your hatch rests directly on the moldings, add 2-1/2 inch wide stops around the opening. The stops provide a wider surface for attaching the weatherstrip and a space to mount hook-and-eye fasteners. Position the screw eyes so the weatherstrip is slightly compressed when the hooks are latched. Cut a piece of fiberglass or rigid foam board insulation the same size as the attic hatch and nail or glue it to the back of the hatch.
If you have pull-down attic stairs or an attic door, these should be sealed in a similar manner: weatherstrip the edges and put a piece of rigid foam board insulation on the back of the door. Treat the attic door like a door to the outside. Pre-made insulated attic stair covers are also available from local home improvement centers or on the Web.

11. WEATHERSTRIP THE DOOR

Weatherstrip the attic access hatch or door. Cut 1x3 boards to fit the perimeter of the opening and nail them on with 6d finish nails. Apply self-adhesive foam weatherstrip tape to the top edge of the stop.

12. ATTACH FASTENERS



Attach hook-and-eye fasteners to the attic door and stops. Position the eyes so that the weatherstrip is compressed when you latch the hooks.

ADDITIONAL SOURCES OF AIR LEAKS

If Your Heating and Cooling Ducts Are in Your Attic, Seal Them While in the Attic

Leaky and poorly-insulated ducts (especially in attics) severely compromise the performance of your heating and cooling equipment. Sealing and insulating your ducts can increase the efficiency of your heating and cooling system by 20% and greatly increase air flow.

- Check the duct connections for leaks by turning on your heating and cooling system fan and feeling for leaks—seal the joints with mastic or foil tape (household duct tape should not be used).
- Pay special attention to all the duct penetrations going through the attic floor. Seal these with foam.
- Ducts should also be insulated—if your ducts are uninsulated or poorly insulated (i.e., you see gaps or torn insulation), seal them first, then add insulation to keep the air in your ducts at your desired temperature as it moves through the system. Use duct insulation material rated at least R-6.

Materials Checklist for Attic Duct Sealing

- Duct sealant (mastic) or metal-backed (foil) tape
- Duct insulation material rated at least R-6
- Zip ties to hold duct insulation in place
- Gloves, safety glasses, mask, flashlight

NOTE: Duct sealant, also known as duct mastic, is a paste which is more durable than foil duct tape. It is available at home improvement centers. Traditional grey duct tape fails quickly and should not be used.

Caution: Check for Carbon Monoxide to keep your house safe. After making energy improvements that result in a tighter house, there can be an increased opportunity for CO to build up if your gas-burning appliances are not venting properly. Have your heating and cooling technician check your combustion appliances (gas- or oil-fired furnace, water heater, and dryer) for proper venting. For additional information on Indoor Air Quality (IAQ) issues related to homes such as combustion safety, indoor air contaminants, and proper ventilation, visit www.epa.gov/iaq/homes/hip-front.html.

ADDITIONAL SOURCES OF AIR LEAKS

Recessed "Can" Lights: Big Source of Air Leaks, But No Easy Solution

Recessed "can" lights (also called high-hats or recessed downlights) look great, but when they protrude into your attic space, they can make your home less energy-efficient. These recessed lights in a one-story house or in the ceiling of a second-story create open holes into your attic that allow unwanted heat flow between conditioned and unconditioned spaces. In the summer, hot attic air can make the rooms warmer, and in the winter can lights draw warm air up into your attic. Both the warm air leakage and the heat from the lights can cause problems. In cold climates, the heat melts snow on the roof and forms ice dams (water re-freezes at the roof edge). This is more likely to happen if the "can" light is close to the roof deck. Recessed "can" lights in bathrooms also cause problems when warm, moist air leaks into the attic and causes moisture damage. Here are some suggestions for improving the recessed can lights in your attic:

- **Call a Professional to Properly Seal**
  Recessed lights can be sealed, but it is difficult and can create a hazard if not done properly with non-combustible materials. Since any old-style lights need adequate air space around them to vent the heat they create, it's best to consult with a professional before sealing them. Also, see "Caution" below. Alternatively, recessed lights can be replaced with ICAT (Insulated Ceiling Air-Tight) rated lights, which insulation can touch and are sealed to reduce air leaks.

- **When Replacing or Adding, Buy ENERGY STAR with ICAT**
  Look for ENERGY STAR qualified recessed fixtures that reduce energy use as much as 75%. However, it's important to check that any fixture selected meets your light output expectations since fixtures come with widely varying wattage bulbs and optics. Also, make sure fixtures have an ICAT rating to minimize heat loss.

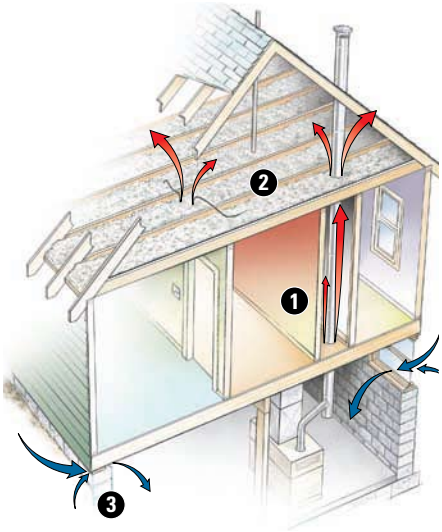
- **Switch to More Efficient Bulbs**
  When keeping existing recessed lights, you can still reduce lighting energy use as much as 75% by installing ENERGY STAR qualified compact fluorescent light (CFL) bulbs. This includes CFL bulbs specifically designed for recessed lights with built-in reflectors matching the appearance of traditional incandescent reflector bulbs. As with new fixtures, it is important to make sure any CFL bulb selected meets your light output expectations. Also, check the packaging of the CFL to ensure that it may be used in an enclosed fixture. However, switching to CFL bulbs will not solve the air leakage problem.

Caution: Keep all insulation 3 inches from "can" lights, except those rated IC (insulation contact). You can use a piece of circular metal flashing or wire mesh around the light as a dam to keep the insulation away from the light (see photo 2, Page 4.3).

SEALING BASEMENT AIR LEAKS

Stopping the Chimney Effect

Outside air drawn in through basement leaks is exacerbated by the chimney effect created by leaks in the attic. As hot air generated by the furnace rises up through the house ❶ and into the attic through leaks ❷, cold outside air gets drawn in through basement leaks to replace the displaced air ❸. This makes a home feel drafty and contributes to higher energy bills. After sealing attic air leaks, complete the job by sealing basement leaks, to stop the chimney effect.



Locating Basement Air Leaks

A common area of air leakage in the basement is along the top of the basement wall where cement or block comes in contact with the wood frame. These leaks can easily be fixed in portions of the basement that are unfinished. Since the top of the wall is above ground, outside air can be drawn in through cracks and gaps where the house framing sits on top of the foundation. This perimeter framing is called the rim (or band) joist. In the basement, the above floor joists end at the rim joist creating multiple cavities along the length of the wall, and many opportunities for leakage (see illustration on Page 3.2).

SEALING BASEMENT AIR LEAKS

Seal All Gaps and Cracks around Rim Joists

Though you may not be able to see cracks in the rim joist cavities, it is best to seal up the top and bottom of the inside of the cavity. Also, rim joist air sealing is especially important at bump out areas such as bay windows that hang off the foundation. These areas provide greater opportunities for air leakage and heat loss. Caulk is best for sealing gaps or cracks that are 1/4 inch or less. Use spray foam to fill gaps from 1/4 inch to about 3 inches. We also recommend you seal penetrations that go through the basement ceiling to the floor above. Generally, these are holes for wires, water supply pipes, water drain pipes, the plumbing vent stack (for venting sewer gases), and the furnace flue (for venting furnace exhaust).

Materials Checklist for Basement Sealing

- Silicone or acrylic latex caulk and caulk gun
- Expanding spray foam

Caution: When sealing the furnace flue (which will be encased in a metal sleeve) use high-temperature caulk. Run a bead of high-temperature caulk around the pipe sleeve and around the metal frame.

Areas to Foam or Caulk

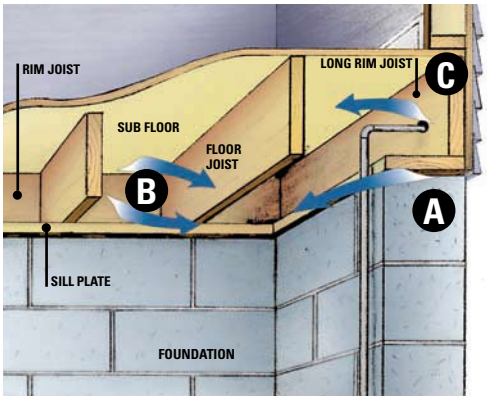


ILLUSTRATION BY DALE HOFFMEYER

A **Along the gap between the sill plate and the foundation**

B **At the bottom and top of the rim joist on each end of the house**

C **All electrical, water, or gas penetrations and any venting ducts that pass to the outside**

What About Insulating the Rim Joist?

After air sealing the rim joist area it is relatively easy to insulate each cavity with rigid foam insulation or fiberglass batts. If using batts, just cut the insulation to fit and place against the rim joist without compression, gaps, or voids. If using rigid, foam into place. This could also be done in conjunction with finishing the basement, when you would insulate the basement walls floor-to-ceiling. Attic and basement air sealing will go a long way to improve your comfort because your house will no longer act like an open chimney.

ADDING ATTIC INSULATION

Now that you've air-sealed your attic and basement, check your attic insulation levels and add more if necessary. The attic is the easiest place to add insulation to improve your comfort and the energy efficiency of your home.

Do I Have Enough?

No matter what kind of insulation you currently have in your attic, one quick way to determine if you need more is to look across the span of your attic. If your insulation is just level with or below your floor joists (i.e., you can easily see your joists), you should add more. If you cannot see any of the floor joists because the insulation is well above them, you probably have enough and adding more may not be cost-effective. It is important that the insulation be evenly distributed with no low spots; sometimes there is enough insulation in the middle of the attic and very little along the eaves. To see how to add insulation out to the eaves, see Installing Rafter Vents (on Page 4.4). If your attic insulation covers your joists and is distributed evenly, you probably have enough.

How Much Should I Add?

Insulation levels are specified by R-Value. R-Value is a measure of insulation's ability to resist heat flow. The higher the R-Value, the better the thermal performance of the insulation. The recommended level for most attics is to insulate to R-38 or about 10 to 14 inches, depending on insulation type.

ADDING ATTIC INSULATION

A Note about Natural Attic Ventilation

At first it may seem odd to add insulation for warmth and then purposely allow cold air to enter the attic through vents, but this combination is the key to a durable and energy-efficient home. Here's why: in the winter, allowing a natural flow of outdoor air to ventilate the attic helps keep it cold, which reduces the potential for ice damming (snow that melts off a roof from an attic that is too warm and then re-freezes at the gutters, causing an ice dam that can damage the roof). Proper insulation and air sealing also keeps attics cold in winter by blocking the entry of heat and moist air from below. In the summer, natural air flow in a well-vented attic moves super-heated air out of the attic, protecting roof shingles and removing moisture. The insulation will resist heat transfer into the house. The most common mistake homeowners make when installing insulation is to block the flow of air at the eaves. NEVER COVER ATTIC SOFFIT VENTS WITH INSULATION—use rafter vents and soffit vents to maintain airflow (See Pages 4.4 and 4.5).

A Note about Attic Fans

Attic fans are intended to cool hot attics by drawing in cooler outside air from attic vents (soffit and gable) and pushing hot air to the outside. However, if your attic has blocked soffit vents and is not well-sealed from the rest of the house, attic fans will suck cool conditioned air up out of the house and into the attic. This will use more energy and make your air conditioner work harder, which will increase your summer utility bill. You don't want your unfinished attic cooled by your air conditioner. To prevent this, follow the air sealing and insulation strategies in this guide and make sure the attic is well-ventilated using passive vents and natural air flow.

Use a blowing machine to blow in loose fill insulation.
Photo courtesy of Green Fiber

Add the Right Kind of Insulation

When adding additional insulation, you do not have to use the same type of insulation that currently exists in your attic. You can add loose fill on top of fiberglass batts or blankets, and vice-versa. If you use fiberglass over loose fill, make sure the fiberglass batt has no paper or foil backing; it needs to be "unfaced." If you choose to add loose fill, it may be wise to hire a professional, as the application requires the use of a blowing machine, although some home improvement stores offer rentals of this machine.

Doing the Job

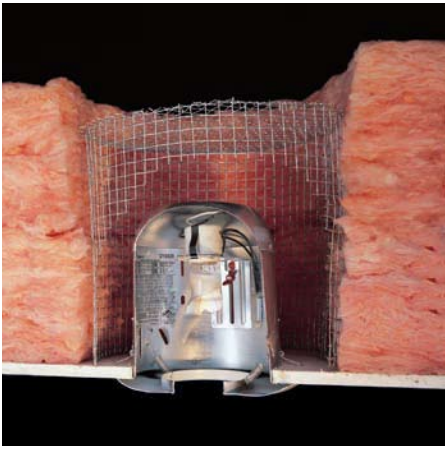
Laying fiberglass rolls is easiest for a DIY job. If you have any type of insulation between the rafters, install the second layer over and perpendicular to the first (again, the second layer of roll insulation should be unfaced– with no vapor retarder). This will help cover the tops of the joists and reduce heat loss or gain through the frame. Also, when laying down additional insulation, work from the perimeter toward the attic opening. Never lay insulation over recessed light fixtures or soffit vents. Keep all insulation at least 3 inches away from "can" lights, unless they are rated IC (Insulated Ceiling). If you are using loose fill insulation, use sheet metal to create barriers around the openings. If using fiberglass, wire mesh can be used to create a barrier.

1. LAY FIBERGLASS ROLLS

Layer fiberglass roll insulation perpendicular to the joists.

Photo courtesy North American Insulation Manufacturers Association

2. CREATE A BARRIER



Use sheet metal or wire mesh to help create a barrier around fixtures or vents.

ADDING ATTIC INSULATION

Installing Rafter Vents

To completely cover your attic floor with insulation out to the eaves you need to install rafter vents (also called insulation baffles). Complete coverage of the attic floor along with sealing air leaks will ensure you get the best performance from your insulation. Rafter vents ensure the soffit vents are clear and there is a channel for outside air to move into the attic at the soffits and out through the gable or ridge vent (see Attic Air Flow graphic on Page 4.5).

To install the rafter vents, staple them directly to the roof decking. Rafter vents come in 4-foot lengths and 14-1/2 and 22-1/2 inch widths for different rafter spacings.

Rafter vents should be placed in your attic ceiling in between the rafters at the point where your attic ceiling meets your attic floor. Once they are in place, you can then place the batts or blankets, or blow insulation, right out to the very edge of the attic floor. Note: Blown insulation may require an additional block to prevent insulation from being blown into the soffit (see Page 4.5). A piece of rigid foam board placed on the outer edge of the top plate works very well for this.

3. PLACE RAFTER VENTS

Place rafter vents in between the rafters where the ceiling meets the floor.

Photo courtesy of Doug Anderson

4. ADD INSULATION

Add insulation around the rafter vent and out to the edge of the attic floor.

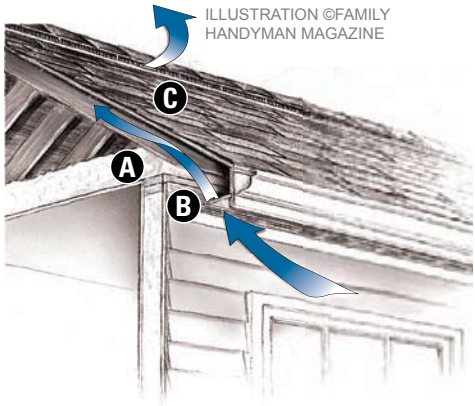
Photo courtesy of Doug Anderson

Attic Air Flow

The outside air flows through the soffit, along the rafter vent and out through the gable or ridge vent.

- **A** RAFTER VENT
- **B** SOFFIT VENT
- **C** RIDGE VENT

NOTE: Gable vent not shown in this diagram.



For additional information on Indoor Air Quality (IAQ) issues related to homes such as combustion safety, indoor air contaminants, and proper ventilation, visit: **http://www.epa.gov/iaq/homes/hip-front.html.**

GLOSSARY

ENERGY STAR – ENERGY STAR is a government-backed program helping businesses and individuals protect the environment through superior energy efficiency. To learn more about the wide variety of energy-efficient ENERGY STAR products and processes visit **http://www.energystar.gov.**

Seal and Insulate with ENERGY STAR – A process recommended by the ENERGY STAR Program for improving the envelope of a home to make it more comfortable and energy-efficient. The process includes sealing air leaks and adding insulation where cost-effective.

Air Duct – A hollow conduit or tube (square or round) that circulates air from a forced-air heating and/or cooling system to a room (supply duct) or returns air back to the main system from a room (return duct).

Air Leak – A hole, crack, or gap where air can leak in or out of a house. Air leaks can make a home feel drafty or uncomfortable and waste energy (See Page 1.3).

Gable Vent – A screened vent installed at or near the peak of a roof gable that allows warm attic air to escape.

Insulation – A material that is designed to slow down the flow of heat in or out of a building structure.

Joist – A beam used to support floors or roofs (See Page 3.2).

Kneewall – A short wall in a room with a sloped ceiling. It is usually formed when the room ceiling follows the roof line of a house (See Page 1.3).

Rafter Vent – A vent leading from the soffit into the attic through the space between the attic rafters. This vent allows air to correctly flow past insulation into the attic space (See Pages 4.4 or 4.5).

Recessed "Can" Light – A metal light fixture (or can) that is in-set into the ceiling. These fixtures can be a big source of air leaks when installed in the upper floor of a home (See Pages 1.6 and 4.3).

Ridge Vent – A screened vent installed along the top ridge of a roof that allows warm attic air to escape (See Page 4.5).

Sill Plate – A wood plank that lays flat on top of a concrete or masonry foundation or wall that supports a floor or ceiling joist (See Page 3.2).

Soffit – The underside of a building overhang, beam, or arch, especially the underside of a stair or roof overhang (See Page 4.5).

Soffit Vent – A screened vent in a house soffit that allows air to flow into the attic or the space below the roof sheathing. This helps keep the attic cool in the summer and allows moisture in the attic to evaporate (See Page 4.5).

For more information
www.energystar.gov
or call **1.888.STAR.YES**
(1.888.782.7937).

United States
Environmental
Protection Agency

EPA

Office of Air and Radiation
(6202J) EPA 430-F-04-024
August 2007

2. New York Energy $mart[SM] Loan Fund

Energy $mart[SM] Loans are offered through a number of participating New York State Financial Institutions. Locate a participating lender in your area using this link: **http://www.nyserda.org/loanfundlenders/nyserda/default.asp.**

Eligible improvements for 1–4 Family Homes are:

- Eligible Measures and Accessories that have been determined by NYSERDA to meet the Home Performance with ENERGY STAR Program guidelines. Only using Home Performance Accredited Contractors off the NYSERDA list qualifies you to receive this special incentive (please see pages 7–11 in this booklet or go to **http://www.getenergysmart.org/Resources/FindPartner.aspx** and search for Home Performance Contractors in Westchester County).
- The purchase of ENERGY STAR Appliances.
- The purchase and installation of grid-connected solar PV or wind turbine systems by a NYSERDA–eligible installer.

The following conditions apply:

- Loans may be unsecured for up to $20,000 ($30,000 for Con Edison service customers).
- Your interest rate is bought down by up to 4% (up to 6.5% for Con Edison service customers) for up to 10 years.
- Procedures and conditions may vary by participating lender, and by loan.

For more information, please contact NYSERDA's toll free hotline: 1 (877) NY SMART or 1 (877) 697-6278.

This website offers further information about financing options: **http://www.getenergysmart.org/SingleFamilyHomes/ExistingBuilding/HomeOwner/Financing.aspx**

Incentive Cash Opportunities

1. Homeowner Financing Incentive

If you choose not to use either ENERGY STAR Financing or the New York Energy $martSM Loan Fund, you may be eligible to receive 10% of the cost of eligible energy efficiency improvements, up to a maximum incentive of $3,000, directly from the Home Performance through ENERGY STAR program (see page 5).

- You must use only the Home Performance Accredited Contractors approved by the Program to receive these special incentives (please see pages 7-11 for a list of local contractors).
- The Home Performance Accredited Contractor you choose will help you decide the scope of the work, maximize the energy efficiency improvements and help to estimate energy savings and guide you to receiving these incentives.
- Payment is authorized after you sign the Certificate of Completion and the program implementer reviews the project.

For more information, please contact NYSERDA's toll free hotline: 1 (877) NY SMART or 1 (877) 697-6278.

2. Homeowners Served by Con Edison Gas

For a limited time only, financing as low as 1.99% APR or up to 25% CASH BACK is available when you make gas and energy efficient improvements to your home. The more work you have done, the higher the incentive level.

- Eligible participants include all natural gas customers in the Con Edison Service territory who are on a firm rate structure and pay the Monthly Rate Adjustment (MRA) charge. Interruptible customers are not eligible.
- Like the other financing programs mentioned, you must use only the Home Performance Accredited Contractors approved by the ENERGY STAR Program to receive these special incentives (please see pages 6-10 for a list of local contractors). The accredited contractor you choose will help you decide the scope of the work, maximize the energy efficiency improvements and help to estimate energy savings and guide you to receiving these incentives.

For more information, please contact NYSERDA's toll free hotline: 1 (877) NY SMART or 1 (877) 697-6278 and ask for information regarding the Home Performance with Energy Star program for Con Edison Gas Customers. Con Edison Gas Incentive Schedule is available at: **http://www.getenergysmart.org/Files/GasCustomerIncentivesHomes.pdf.**

Assistance for Low– and Moderate–Income Households and Seniors

1. Assisted Home Performance

Assisted Home Performance brings a whole-house building performance approach to energy efficiency improvements. The objective of the program is to reduce energy costs of low– and moderate–income households by providing affordable energy efficiency improvements. **The program will cover up to 50% of the costs associated with the energy-efficiency improvements**, up to a maximum of $5,000 per household or $10,000 for a 2–4 family building. The cost–sharing feature includes covering 50% of the cost of the first step in the process: a Home Energy Audit. Contact Energy Finance Solutions at 1 (800) 361-5663 for more information.

In addition, an **Energy Finance Solutions Loan** may be combined with the above offer. Key features of this loan:

- Residential owner-occupied single-family and duplex homes
- Unsecured loan (homeowner provides no collateral)
- Borrowers can finance $2,500 - $20,000
- Fixed rate loan terms available: 3, 5, 7 and 10 years
- No fees, points, or closing costs
- No prepayment penalty
- Can finance 100% of installation costs
- Quick approval process - usually 30 minutes or less
- Current interest rate (as of 9/9/2008) is 5.99%

Please see **http://www.energyfinancesolutions.com/states/new_york/nyserda_ny.html** or call Energy Finance Solutions at 1 (800) 361-5663 for more information.

For more information on Low-Income Eligibility for Assisted Home Performance go to http://**www.getenergysmart.org/SingleFamilyHomes/ExistingBuilding/HomeOwner/LowIncomeEligible.aspx** or call Energy Finance Solutions at 1 (800) 361-5663.

2. EmPower New York℠

EmPower New York℠ provides cost-effective electric reduction measures, particularly lighting and refrigerator replacements, as well as other cost-effective home performance strategies such as insulation, and health and safety measures. **There is no cost to the customer to participate in this program.** On-site energy use education provides customers with additional strategies for managing their energy costs.

Who is Eligible?
Electric distribution customers of a participating utility (Con Ed and NYSEG included) that live in a building with 100 units or less and either participate in a utility payment assistance program or have a household income below 60% of state median income are eligible (i.e., HEAP eligible).

What is the Cost?
There is no cost to the customer. In rental situations, certain measures that directly benefit the eligible tenant are eligible without a landlord contribution. Additional measures generally require a 25% landlord contribution.

Who Provides the Services?
The New York State Energy Research and Development Authority (NYSERDA) contracted with Honeywell International to implement the EmPower New York ℠ Program. Accredited private contractors or participating

Weatherization Agencies deliver the energy efficiency services, all of whom are Building Performance Institute (BPI) accredited.

How to Apply
For information contact Honeywell International at 1 (800) 263-0960. Referrals will also be accepted from participating utilities, local Offices for the Aging and Weatherization Agencies. Energy efficiency services are prioritized based on the potential for cost-effective energy usage reduction.

3. Energy Efficiency and Financial Management Workshops

Free energy efficiency and financial management workshops are held throughout the service territories of the utilities (including Con Edison and NYSEG). Cornell Cooperative Extension of Tompkins County is responsible for developing and delivering the workshops. Go to **www.ccetompkins.org/EmPowerNY** for a schedule of workshops.

4. Low-Income Home Energy Assistance Program (HEAP)

HEAP is a federally funded program administered by the New York State Office of Temporary and Disability Assistance (OTDA) that provides financial assistance to eligible households to help pay for their home heating costs. It provides (Nov–April) one-time credit toward the payment of utility or heating costs. An additional grant may be awarded for emergencies and shut–offs. It is structured in such a way that higher benefits are provided to those households that spend a large portion of their income on energy bills; have a child

or children under age 8, adults over 60, or disabled individuals living in the house; have the lowest income; or run out of heating fuel.

Who is Eligible?
To be eligible, a household must meet income guidelines (currently 60% of the State Median Income or below) and either pay directly for heating costs or pay rent that includes heating costs. Individual applicants must be U.S. citizens or qualified aliens.

Where to Apply
10/25/2008 is the first day that information will be available regarding the 2008-2009 NYS HEAP plan. 11/3/2008 will be the first day that applications will be accepted.

For information on where to apply, call **1 (800) 342-3009** or go to **http://www.otda.state.ny.us/main/heap/.**

Applications may be also obtained and submitted to your county Department of Social Services HEAP Office for an eligibility determination. Please call ahead for specific instructions before visiting. The Department of Social Services HEAP Office in Westchester is: Westchester County Department of Social Services, County Office Building #2, 112 East Post Road, 5th floor, White Plains, New York 10601 (914) 995-5619 - Please call ahead for specific instructions before visiting.

If you have a power or gas shut–off or if you have less than a ten day supply of heating fuel, you need to contact the AFTER HOURS: DSS EMERGENCY SERVICES (914) 995-2099.

5. Senior Citizen Weatherization Program (WRAP)

Who is Eligible?
The Weatherization Referral and Packaging Program (WRAP) administered by the New York State Office for the Aging and the Westchester County Department of Senior Programs and Services utilizes specialized energy case management to provide safe, affordable, energy efficient housing to low-income homeowners, age 60+ or disabled individuals. Additional energy, housing and social services are coordinated for the elderly who are unable to identify and access them on their own.

How does it work?
WRAP provides comprehensive, weatherization service and energy conservation education to the most needy elderly. This program helps eligible seniors and disabled homeowners make their home energy efficient. A reputable contractor will install weather stripping, caulking, perform window and door repairs, repairs to heating systems, insulation, etc. at no cost. A needs assessment and energy audit determines how much work will be done.

WRAP also identifies other unmet needs of the individual and makes referrals to appropriate agencies. This can make the difference between maintaining individuals in their homes or having to provide them with costly subsidized housing or institutional care. It encourages independence and allows seniors to live out their lives in their own home with an improved quality of life. This comprehensive approach reduces energy consumption for seniors, which is reflected in lower utility or fuel bills. This energy savings reduces the financial burden of the low-income elderly, providing them with more income to pay for other necessities such as food, clothing, or medical care.

Cost
Free to eligible applicants.

Where to apply
For more information and an application form contact the Westchester County Department of Senior Programs and Services at **(914) 813-6300** or the Westchester County Department of Planning at **(914) 995-2413.**

6. WestCOP's Weatherization Program

Energy Services (Weatherization Assistance Program) currently focuses on reducing heating and cooling costs in homes of low-income families, while ensuring the safe operation of the building equipment (heating appliances, cooking stove, etc.).

How does it work?
The program consists of four steps:
1. An application to the local service provider to determine income eligibility.
2. An energy audit of the home to identify specific needs; this often includes state-of-the-art blower door testing and infrared scanning.
3. The Weatherization of the home.
4. A post-weatherization inspection to assure quality and effectiveness.

What services are included?
Services might include but are not limited to:
- Weather-stripping and caulking around doors and windows
- Cleaning, testing, repairs or replacement of heating systems
- Replacement or repair of storm windows

- Replacement or repair of broken windows and /or outside doors
- The addition of insulation to walls or ceilings
- Minor repairs as needed to ensure maximum efficiency.

Who does the work?
Local service providers supply high-quality work performed by skilled personnel. Some providers use their own crews and some hire local private contractors.

Is there any charge for Weatherization Services?
All services are provided without obligation to the occupant of the home. However, owners of rental buildings are required to invest funds towards the cost of the Weatherization services.

What are the sources for Weatherization funding?
The NYS Division of Housing and Community Renewal's Weatherization Assistance Program is funded annually by US Department of Energy. In addition, DHCR receives funds for Weatherization activities from the Low-Income Home Energy Assistance Program funded by the US Department of Health and Human Services through the NYS Office of Temporary and Disability Assistance.

How to Apply
Please contact:
Dirk Fields, Director
540 Palmer Road, Yonkers, NY 10701
Main # (914) 375-7888
Fax # (914) 375-7887
Email: **dfields@westcop.org**
Website: http://www.westcop.org/weather.htm
Hours: Monday-Friday ~ 8:00am-4:00pm

Additional programs for senior citizens and eligible residents

Residential Emergency Services to Offer Repairs to the Elderly (RESTORE)
http://www.westchestergov.com/pdfs/HOUSING_RESTORE_Guidelines8-2007.pdf or call (914) 995-2413.

Affordable Housing Corporation (AHC) Home Improvement Program (HIP)
http://www.westchestergov.com/pdfs/AHC_HIP_Program_Guidelines_8-2007.pdf or call (914) 995-2413.

Additional reference information

NYS Assistance for low and moderate-income households:
http://www.getenergysmart.org/LowIncome/HomeOwners.aspx/

NOTES

Energy Advisory Panel

Formed April, 2007, the Energy Advisory Panel is composed of knowledgeable individuals from a cross section of our community who are interested in finding ways to reduce our town's energy use. Their task is to recommend a Climate Action Plan for the Town and its residents which may include advice on how to conserve energy, maximize our resources, implement new technologies, examine alternate fuels and vehicles and suggest ways to reduce our carbon emissions in a wide variety of ways.

- Visit our website www.bedfordny.info . Click on the Green Page tab to find news, tips, resources, and to take our Bedford Twenty by 2020 Pledge.
- Visit the Bedford Town House Winter Energy Savings Kiosk for more information on winter savings
- Need to Reach Us? Email the Bedford Energy Advisory Panel at **bedfordenergy@bedfordny.info**

Current Members:

Bill Abranowicz
Shirley Bianco
Janet Harckham
MaryBeth Kass, Chair
Daniel Martin
Simon Skolnik
Mark Thielking
Dr. Stuart Weitzman

bedford twenty by **2020**

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Town of Bedford
Energy Advisory Panel
321 Bedford Road
Bedford Hills, NY 10507

2008 Winter
Energy Savings Toolkit

DO NOT FORWARD

RESIDENTIAL CUSTOMER

bedford twenty by 2020